IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant : tomonori Kojima et al

Title : ROTOR OF ELECTRIC MOTOR AND METHOD FOR MANUFACTURING THE SAME

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Group Art Unit :

Hon. Commissioner of Patents and Trademarks
Washington, D. C. 20231

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PRELIMINARY AMENDMENT

Sir:

Preliminary to examination, please amend the claims 5, 6, 7, 10, 13 and 14 as attached herewith.

REMARKS

The preliminary amendment has been filed to change multiple dependency of claims 5, 6, 7, 10, 13 and 14 to single dependency.

Respectfully submitted,

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by

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CLAIMS:

[Claim 1]

A rotor of an electric motor to be arranged inside a stator for generating a revolving magnetic field, comprising: a permanent magnet formed in a ring shape; a rotating shaft arranged at a center of said permanent magnet; and a cushioning member made of rubber material having predetermined hardness, vulcanized and molded between said permanent magnet and said rotating shaft, characterized in that said permanent magnet and said rotating shaft are integrally coupled through said cushioning member.

[Claim 2]

The rotor of an electric motor according to claim 1, characterized in that on an inner peripheral surface of said permanent magnet, there is formed a protruded portion which enters said cushioning member as an anchor.

[Claim 3]

The rotor of an electric motor according to claim 2, characterized in that said plurality of protruded portions are provided at predetermined intervals circumferentially on an inner peripheral surface of said permanent magnet.

[Claim 4]

The rotor of an electric motor according to claim 2,

characterized in that said protruded portions are formed in a series of flange shape circumferentially on an inner peripheral surface of said permanent magnet.

[Claim 5]

(Amended) The rotor of an electric motor according to claim 1, characterized in that joining of said permanent magnet and said rotating shaft to said cushioning member is further reinforced with adhesive.

[Claim 6]

(Amended) The rotor of an electric motor according to claim 1, characterized in that joining of said rotating shaft and said cushioning member is further reinforced by baking means.

[Claim 7]

(Amended) The rotor of an electric motor according to claim 1, characterized in that said cushioning member is provided with displacement absorbing means for absorbing displacement of said cushioning member.

[Claim 8]

The rotor of an electric motor according to claim 7, characterized in that said displacement absorbing means consists of a plurality of through-holes formed in said cushioning member in parallel to said rotating shaft.

[Claim 9]

The rotor of an electric motor according to claim 7, characterized in that said displacement absorbing means consists of a plurality of recesses formed on both surfaces of said cushioning member.

[Claim 10]

(Amended) The rotor of an electric motor according to claim 1, characterized in that said cushioning member is chloroprene rubber.

[Claim 11]

A method for manufacturing a rotor of an electric motor to be arranged inside a stator for generating a revolving magnetic field, comprising the steps of: after a permanent magnet formed in a ring-shape in advance and a rotating shaft are concentrically arranged within a metal mold, pouring rubber material in fluid state into space between said permanent magnet and said rotating shaft to vulcanize and mold a cushioning member having predetermined hardness, and integrally coupling said permanent magnet and said rotating shaft through said cushioning member.

[Claim 12]

The method for manufacturing a rotor of an electric motor according to claim 11, characterized in that said permanent magnet is made of plastic magnet, and when said cushioning

member is vulcanized and molded within space between said permanent magnet and said rotating shaft, the molding temperature is controlled to be equal to or less than temperature at which said plastic magnet does not become deformed.

[Claim 13]

(Amended) The method for manufacturing a rotor of an electric motor according to claim 11, characterized in that prior to vulcanizing and molding of said cushioning member, both an inner peripheral surface of said permanent magnet and said rotating shaft, or either of them is coated with adhesive.

[Claim 14]

(Amended) The method for manufacturing a rotor of an electric motor according to claim 11, characterized in that after vulcanizing and molding of said cushioning member, a joined portion between said rotating shaft and said cushioning member is further baked.